

IN THE CLAIMS:

1. (Currently Amended) A process for producing a fatty acid ester from an oil or fat and an alcohol, wherein the process comprises reacting an oil or fat with an alcohol in the presence of a solid base catalyst comprising at least one component selected from the group consisting of sodium carbonate, calcium oxide, calcium hydroxide, calcium carbonate and magnesium oxide under conditions in which at least one of the oil or fat in an amount of 0.001 parts by weight or more based on 100 parts by weight of the oil or fat and the alcohol is in a supercritical state at a temperature of 270 °C or more, said solid base catalyst being present in an amount of 3 to 6 parts by weight based on 100 parts by weight of the oil or fat.

2. (cancelled)

3. (original) A process for producing a fatty acid ester from an oil or fat and an alcohol, wherein the process comprises reacting an oil or fat with an alcohol in the presence of a nickel-containing solid catalyst under conditions in which at least one of the oil or fat and the alcohol is in a supercritical state.

4. (original) The process according to claim 3, wherein the nickel-containing solid catalyst is a catalyst containing an oxide of nickel.

5. (original) The process according to claim 1 or 3, wherein the alcohol is in a supercritical state.

6. (currently amended) The process according to claim 5, wherein the alcohol is represented by the following ~~general~~ formula (1):



wherein R is a hydrocarbyl group having 1 to 10 carbon atoms, or a hydrocarbyl group substituted by a hydrocarbyloxyl group which substituted hydrocarbyl group has 2 to 10 carbon atoms.

7. (currently amended) The process according to claim 6, wherein R in the ~~general~~ formula (1) is an alkyl group having 1 to 4 carbon atoms.

8. (currently amended) The process according to claim 6, wherein R in the ~~general~~ formula (1) is methyl group or ethyl group.

9. (currently amended) The process according to claim 6, wherein R in the ~~general~~ formula (1) is methyl group.

10. (original) The process according to claim 1 or 3, wherein the oil or fat is a waste oil or fat.

11. (original) The process according to claim 1 or 3, wherein the oil or fat is a waste edible oil.

12. (original) A fuel comprising a fatty acid ester obtained by the process according to claim 1 or 3.

13. (original) A fuel for diesel engine comprising a fatty acid ester obtained by the process according to claim 1 or 3.

14. (original) A base oil for lubricant oil comprising a fatty acid ester obtained by the process according to claim 1 or 3.

15. (original) A fuel oil additive comprising a fatty acid ester obtained by the process according to claim 1 or 3.

16. (cancelled)

17. (previously presented) The process according to claim 1, wherein the alcohol is in a supercritical state at a temperature within the range of from 270 to 400 °C.

18. (cancelled)

REMARKS

Claims 1, 3-15 and 17 remain pending after amendment.

Claim Amendments

By this amendment, claim 1 is amended to recite that the catalyst is present in an amount of from 3 to 6 parts by weight consistent with the disclosure at page 12 of the specification. Claims 16 and 18 are cancelled. Editorial amendments are made in claims 6-9. No new matter is added by this amendment.

Applicants' Invention

By way of review, applicants' invention is directed to a process for producing a fatty acid ester from an oil or fat and an alcohol, wherein the process comprises reacting an oil or fat with an alcohol in the presence of a solid base catalyst comprising at least one component selected from the group consisting of sodium carbonate, calcium oxide, calcium hydroxide, calcium carbonate and magnesium oxide under conditions in which at least one of the oil or fat in an amount of 3 to 6 parts by weight or more based on 100 parts by weight of the oil or fat and the alcohol is in a supercritical state at a temperature exceeding 270 °C. As demonstrated in the examples,

the claimed invention enables particularly desirable results to be achieved in connection with the production of the fatty acid ester. Applicants' invention is also directed to a fuel or base oil comprised of the fatty acid ester produced by applicants' process. Applicants' invention is neither disclosed nor suggested by the prior art.

Advisory Action of August 4, 2003

Applicants note that the prior amendment of July 9, 2003 has not been entered. This response corresponds to the prior response with the exception that the amount of the catalyst present in claim 1 is now 3 to 6 parts by weight, instead of at least 0.005 parts by weight as recited in the prior unentered amendment.

Withdrawn Rejections

Applicants again acknowledge with appreciation the withdrawal of the prior rejection of claim 1 under 35 USC 103(a).

Allowable Subject Matter

Applicants acknowledge with thanks the indication of allowability of the subject matter of claims 3 and 4. However, in view of the above amendments and the following remarks, applicants believe that all pending claims are now allowable.

Rejection under 35 USC 112 (paragraph two)

Claims 1 and 3-17 stand rejected under 35 USC 112 (paragraph two) as not distinctly claiming the invention. This rejection respectfully is traversed to the extent deemed to apply to the claims as amended.

In response, claim 1 is again amended to clarify the weight basis for the catalyst. In view of this amendment, the rejection is believed to be moot and should be withdrawn.

Rejection under 35 USC 102(a) or 102(e) over Sasaki

Claims 1 and 5-18 stand rejected under 35 USC 102(a)/(e) as being anticipated by Sasaki U.S. Patent No. 6,187,939. This rejection respectfully is traversed to the extent deemed to apply to the claims as amended.

In response to the rejection, applicants amend claim 1 to recite that the catalyst is present in an amount of at from 3 to

6 parts by weight based on the weight of the oil or fat and alcohol components. This corresponds to a range of from 2.91 to 5.66 wt. %. By contrast, the reference teaches that only minor amounts of catalyst (**0.1 wt. % or less**) should be employed. The Examiner's attention is directed to column 5, lines 1-5 of the reference. The noted amendment of claim 1 now precludes the rejected claims from being anticipated by the reference in the manner asserted by the Examiner.

The rejection is thus without basis and should be withdrawn.

The application is now believed to be in condition for allowance. Accordingly, entry of this amendment and early indication of same are earnestly solicited.

In the event that any outstanding matters remain in this application, Applicants request that the Examiner contact James W. Hellwege (Reg. No. 28,808) at (703) 205-8000 to discuss such matters.

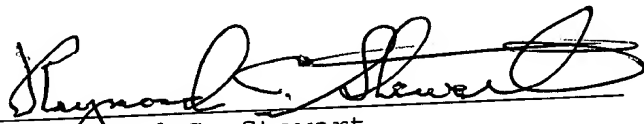
Pursuant to 37 C.F.R. §§ 1.17 and 1.136(a), Applicant(s) respectfully petition(s) for a two month extension of time for filing a reply in connection with the present application, and the required fee of \$420.00 is attached hereto.

If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies to charge payment or credit any overpayment to Deposit Account No. 02-2448 for any additional fees required under 37 C.F.R. §§ 1.16 or 1.17; particularly, extension of time fees.


Very truly yours,

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